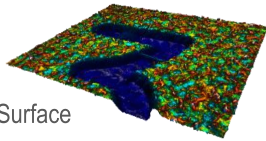
SENSOFAR
METROLOGY

4-in-1 Technology Automatic Non-Contact 3D Surface Profiler

Technologies in 1 Surface Profiler

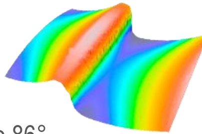
1) Confocal

Smooth to Rough Surface
Good XY Resolution



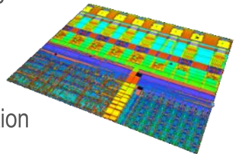
2) AI Focus Variation

High Slope Surface Up to 86°
High Speed Scanning

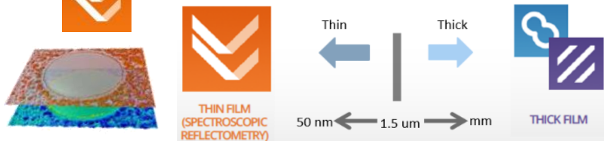


3) Interferometry

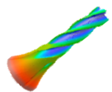
High Vertical Resolution
Z-Height Down to:
(0.1nm; 0.01nm Piezo)



4) Thin Film Measurement



	AI FOCUS VARIATION	CONFOCAL	INTERFEROMETRY
Rough samples	★★★	★★★	★
Smooth samples	★	★★	★★★
Micro-scale features	★★	★★★	★★★
Nano-scale features		★★	★★★
High local slopes	★★★	★★	★
Thickness		★★★	★★★
Speed	★★★	★★	★
Z resolution	★	★★	★★★
XY resolution	★★	★★★	★



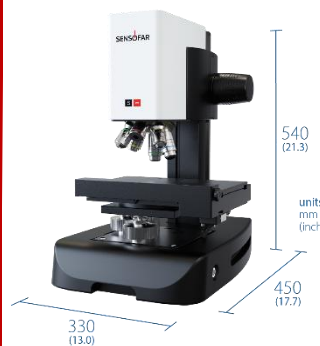
Optional 5-Axis Stage

S neox

Semi-Automated Advance 3D Surface Profiler

- Automated multiple point scan & analysis feature available
- Customizable Motorized Stage Size & Jigs
- LED Light Source: Red, Green, Blue & White (True Colour Analysis)

***25x Times Longer Lifespan than Laser Source!*



- Basic profiler with blue & white LED light
- Motorized stage travel range 125 x 75mm
- Small & Compact for Labs
- Connects directly to Laptop/ PC
- Nanometric to Micrometric measurement
- Automatic analysis available

- Basic profiler with blue & white LED light
- Manual stage travel range 100 x 100mm
- Small, Compact & Affordable for Labs
- Connects directly to Laptop/ PC
- Nanometric to Micrometric measurement
- Automatic analysis available

S wide

Fringe Projection (Semi-Automated)

- FOV Size: 34.7 x 29.1mm (Large area in Seconds)
- Automated scanning & analysis feature available
- Micrometric to Millimetric measurement

Spatial sampling[2] (µm)	14.2
Optical resolution[3] (µm)	9.35
System noise[4] (µm)	<1

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Customized Full Automation Integration Solutions

- Integration with wafer robot handling system
- Integration with leadframe loader system
- Optional to be AGV ready
- Customizable motorized panel stage 700 x700 mm
- SECS/GEM

Software Automation

ACQUISITION

SensoSCAN 7

- Multiple Location Recipe Setting
- Fiducial Points Alignment
-User Friendly Interface

AUTOMATION & ANALYSIS

SensoPRO 3

SensoMATCH

- Auto-Analysis for Production
-Auto Pass / Fail Judgement
-Auto-Generated Reports
-Customized Analysis Parameters

ANALYSIS

SensoVIEW

SensoMAP

SensoCOMP

SensoView
Manual Analysis Operator & User Friendly

SensoMap
Advance Engineering Analysis

SensoCOMP
Forensic Comparison

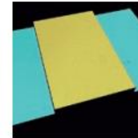
SDK

-SDK Engineering Integration

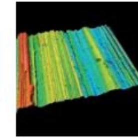
SENSOFAR METROLOGY

Applications with Customizable *Auto Analysis*

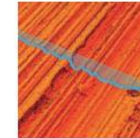
Step Height



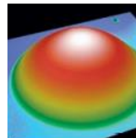
Step Height ISO



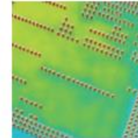
Surface Texture



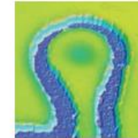
Surface Texture Profile



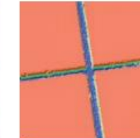
Aspheric



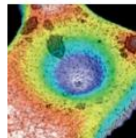
Bump



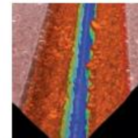
Circle Pad



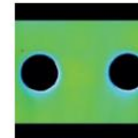
Cross Kerf



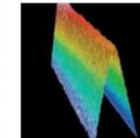
Dimple



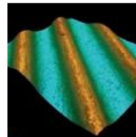
Double SH

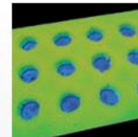


Dual Hole

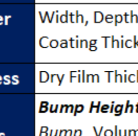


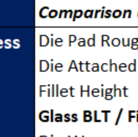
Edge

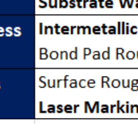


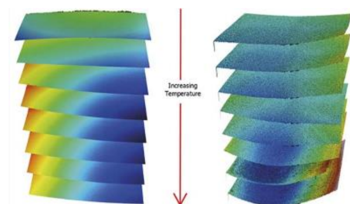


Wafer Probe	***Probed Mark Depth*** Punched Through Hole
Wafer Laser Marking Process	Laser Marking Depth
Wafer Saw/ Laser Groove/ Kerf	Width, Depth, Laser Recast Measurement Coating Thickness on Transparent Glass
Laser Hole Process	Dry Film Thickness
Wafer Level Bumping Process	***Bump Height, Diameter, Co-Planarity,*** *Bump* Volume ***Comparison of Probed & Non-Probed Bump***
Die Attach Process	Die Pad Roughness Die Attached BLT, Tilt, Rotation & Offset Fillet Height **Glass BLT / Fillet Height** Die Warpage with Temperature & Time Change **Solder Volume** **Substrate Warpage**
Wire Bond Process	**Intermetallic Coverage %** Bond Pad Roughness, Cratering, Pad Remains
Molding Process	Surface Roughness Measurement **Laser Marking Depth/ Roughness**

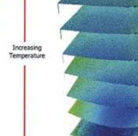


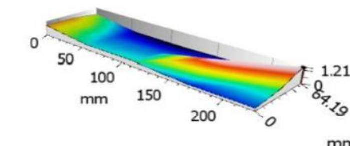




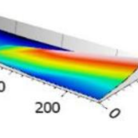


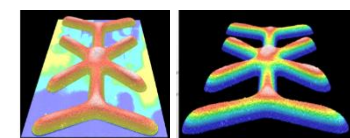
4D Application: Die Warpage with Temperature & Time

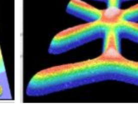




Substrate/ Surface Warpage







Solder Volume

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